

What is claimed is:

1. An apparatus for recording an image on a photosensitive material by exposing light, emitted from a light source capable of modulating intensity of said light, onto said photosensitive material, said apparatus comprising:

    a photometry section to measure said intensity of said light emitted from said light source;

    a first photometry-processing section to find first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels;

    a second photometry-processing section to find second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing said image onto said photosensitive material;

a photometry-coefficient calculating section to calculate photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values; and

a light-intensity correcting section to correct said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated by said photometry-coefficient calculating section.

2. The apparatus of claim 1,

wherein said second photometry-processing section finds said second light-intensity values for at least a first specific gradation level selected out of middle-gradation levels included in said gradation levels and a second gradation level selected out of low-gradation levels, being lower than said middle-gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to said first

specific gradation level and said second gradation level before exposing said image onto said photosensitive material.

3. The apparatus of claim 1,

wherein said apparatus includes a plurality of light sources, each of which is equivalent to said light source, and said light-intensity correcting section corrects said intensity of said light for every gradation level with respect to each of said plurality of light sources.

4. The apparatus of claim 1,

wherein said light source employs a light emitting diode.

5. The apparatus of claim 1,

wherein said first photometry-processing section performs a photometry-processing for finding said first light-intensity values for every gradation level at a predetermined time or a starting-up time of said apparatus.

6. An apparatus for controlling an image-recording apparatus, which records an image on a photosensitive material by exposing light and which is provided with a photometry

section to measure intensity of said light emitted from a light source capable of modulating said intensity of said light, said apparatus comprising:

a first acquiring section that commands said image-recording apparatus to find first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels, in order to acquire said first light-intensity values from said image-recording apparatus;

a second acquiring section that commands said image-recording apparatus to find second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing said image onto said photosensitive material, in order to acquire said second light-intensity values from said image-recording apparatus before sending an image-outputting command to said image-recording apparatus;

a photometry-coefficient calculating section to calculate photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values;

a correcting-information generating section to generate correcting information for correcting said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated by said photometry-coefficient calculating section; and

a transmission controlling section to transmit said correcting information, generated by said correcting-information generating section, to said image-recording apparatus, and to command said image-recording apparatus to revise information stored in it, based on said correcting information transmitted.

7. The apparatus of claim 6,

wherein said second acquiring section commands said image-recording apparatus to find said second light-intensity values for at least a first specific gradation level selected out of middle-gradation levels included in said gradation

levels and a second gradation level selected out of low-gradation levels, being lower than said middle-gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to said first specific gradation level and said second gradation level before exposing said image onto said photosensitive material, in order to acquire said second light-intensity values from said image-recording apparatus before sending said image-outputting command to said image-recording apparatus.

8. A system for creating a color proof, comprising:

an image-recording apparatus that records an image, serving as said color proof, on a photosensitive material by exposing light and that is provided with a photometry section to measure intensity of said light emitted from a light source capable of modulating said intensity of said light; and

a controlling apparatus that is coupled to said image-recording apparatus through a communication network so as to control said image-recording apparatus by bilaterally communicating with said image-recording apparatus;

wherein said controlling apparatus includes:

a first acquiring section that commands said image-recording apparatus to find first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels, in order to acquire said first light-intensity values from said image-recording apparatus;

a second acquiring section that commands said image-recording apparatus to find second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing said image onto said photosensitive material, in order to acquire said second light-intensity values from said image-recording apparatus before sending an image-outputting command to said image-recording apparatus;

a photometry-coefficient calculating section to calculate photometry-coefficients, serving as light-intensity

errors in photometry, based on said first light-intensity values and said second light-intensity values;

a correcting-information generating section to generate correcting information for correcting said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated by said photometry-coefficient calculating section; and

a transmission controlling section to transmit said correcting information, generated by said correcting-information generating section, to said image-recording apparatus, and to command said image-recording apparatus to revise information stored in it, based on said correcting information transmitted.

9. A system for creating a color proof, comprising:

an information terminal device to edit a color image so as to output an edited-image data file;

an image-processing apparatus that is coupled to said information terminal device through a communication network so as to process said edited-image data file received from

said information terminal device by bilaterally communicating with said information terminal device; and

an image-recording apparatus that is coupled to said image-processing apparatus through said communication network so as to create said color proof by bilaterally communicating with said image-processing apparatus;

wherein said image-processing apparatus develops and divides said edited-image data file, including a plurality of color data sets, into a plurality of color-form data sets, each of which corresponds to each of predetermined primary colors for printing, and sequentially transmits said plurality of color-form data sets to said image-recording apparatus through said communication network; and

wherein said image-recording apparatus creates said color proof based on said plurality of color-form data sets, transmitted from said image-processing apparatus, by exposing light, emitted from a light source capable of modulating intensity of said light, onto a photosensitive material, and said image-recording apparatus comprises:

a photometry section to measure said intensity of said light emitted from said light source;

a first photometry-processing section to find first light-intensity values for every gradation level, based

on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels;

a second photometry-processing section to find second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing said image onto said photosensitive material;

a photometry-coefficient calculating section to calculate photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values; and

a light-intensity correcting section to correct said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated by said photometry-coefficient calculating section.

10. The system of claim 9, further comprising:

a host controlling apparatus that is coupled to said image-recording apparatus through a communication network so as to control said image-recording apparatus by bilaterally communicating with said image-recording apparatus.

11. The system of claim 9, further comprising:

a controlling apparatus that is coupled to said image-recording apparatus through a communication network so as to control said image-recording apparatus by bilaterally communicating with said image-recording apparatus; and

a host controlling apparatus that is coupled to said controlling apparatus through said communication network so as to control said controlling apparatus by bilaterally communicating with said controlling apparatus.

12. A computer program for executing a light-intensity correcting operation in an image-recording apparatus, which creates a color proof on a photosensitive material by exposing light and which is provided with a photometry section to measure intensity of said light emitted from a light source capable of modulating said intensity of said

light, said computer program comprising the functional steps of:

finding first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels;

finding second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing an image onto said photosensitive material;

calculating photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values; and

correcting said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated in said calculating step.

13. The computer program of claim 12,

wherein, in said second finding step, said second light-intensity values for at least a first specific gradation level selected out of middle-gradation levels included in said gradation levels and a second gradation level selected out of low-gradation levels, being lower than said middle-gradation levels, are found, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to said first specific gradation level and said second gradation level before exposing said image onto said photosensitive material.

14. A computer program for controlling an image-recording apparatus, which creates a color proof on a photosensitive material by exposing light and which is provided with a photometry section to measure intensity of said light emitted from a light source capable of modulating said intensity of said light, said computer program comprising the functional steps of:

commanding said image-recording apparatus to find first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry

section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels, in order to acquire said first light-intensity values from said image-recording apparatus;

commanding said image-recording apparatus to find second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing an image onto said photosensitive material, in order to acquire said second light-intensity values from said image-recording apparatus before sending an image-outputting command to said image-recording apparatus;

calculating photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values acquired in said first commanding step and said second commanding step, respectively;

generating correcting information for correcting said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-

outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated in said calculating step;

transmitting said correcting information, generated in said generating step, to said image-recording apparatus; and

commanding said image-recording apparatus to revise information stored in it, based on said correcting information transmitted.

15. The computer program of claim 14,

wherein, in said second commanding step, said image-recording apparatus finds said second light-intensity values for at least a first specific gradation level selected out of middle-gradation levels included in said gradation levels and a second gradation level selected out of low-gradation levels, being lower than said middle-gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to said first specific gradation level and said second gradation level before exposing said image onto said photosensitive material.

16. A method for performing a light-intensity correcting operation in an image-recording apparatus, which records an image on a photosensitive material by exposing light and which is provided with a photometry section to measure intensity of said light emitted from a light source capable of modulating said intensity of said light, said method comprising the steps of:

finding first light-intensity values for every gradation level, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to all of gradation levels;

finding second light-intensity values for at least a specific gradation level selected out of said gradation levels, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on an image-outputting signal corresponding to said specific gradation level before exposing said image onto said photosensitive material;

calculating photometry-coefficients, serving as light-intensity errors in photometry, based on said first light-intensity values and said second light-intensity values; and

correcting said intensity of said light for every gradation level, by performing arithmetic calculations for correcting image-outputting signals of said image to be exposed onto said photosensitive material, based on said photometry-coefficients calculated in said calculating step.

17. The method of claim 16,

wherein, in said second finding step, said second light-intensity values for at least a first specific gradation level selected out of middle-gradation levels included in said gradation levels and a second gradation level selected out of low-gradation levels, being lower than said middle-gradation levels, are found, based on said intensity of said light measured by said photometry section, by controlling said light source so as to emit said light based on image-outputting signals corresponding to said first specific gradation level and said second gradation level before exposing said image onto said photosensitive material.

18. The method of claim 16,

wherein said image-recording apparatus includes a plurality of light sources, each of which is equivalent to said light source, and said light-intensity correcting

operation for correcting said intensity of said light for every gradation level is performed with respect to each of said plurality of light sources.

19. The method of claim 16,

wherein said light source employs a light emitting diode.

20. The apparatus of claim 16,

wherein, in said first finding step, a photometry-processing for finding said first light-intensity values for every gradation level is performed at a predetermined time or a starting-up time of said apparatus.